

WHAT IS CLAIMED IS:

1. A data transform method for transforming a first data string into a second data string, comprising:

a replacement step of replacing first data contained in the first data string by second data;

a first generation step of generating the second data string by using data generated in said replacement step; and

a usage-license-information addition step of adding, to the second data string, first usage license information including information indicating at least one condition for permitting the use of at least part of the second data string and information indicating the second data string which is permitted to be used based on said at least one condition,

wherein, when the second data string is used, the second data string which is permitted to be used is utilized based on the first usage license information.

2. A data transform method according to claim 1, further comprising an addition step of adding a third data string which is not contained in the first data string to the second data string,

wherein, in said usage-license-information addition step, the first usage license information including

information indicating at least one condition for permitting the use of at least part of the second data string to which the third data string is added and information indicating the second data string to which the third data string is added and which is permitted to be used based on said at least one condition is added to the second data string to which the third data string is added.

3. A data transform method according to claim 1, further comprising a second generation step of generating a fourth data string required for reconstructing the first data string from the second data string generated in said first generation step,

wherein the fourth data string includes data for reconstructing the first data replaced by the second data in said replacement step.

4. A data transform method according to claim 3, wherein, in said second generation step, the fourth data string including second usage license information including information indicating at least one condition for permitting the use of at least part of the first data string and information indicating the first data string which is permitted to be used based on said at least one condition is generated.

5. A data transform method according to claim 3, wherein the second data string includes a third data string, and, in said second generation step, the fourth data string including second usage license information including information for erasing at least part of the second data string containing the third data string is generated.

6. A data transform method according to claim 3, wherein, in said second generation step, a fifth data string which is not contained in the first data string, and the fourth data string including second usage license information including information for adding the fifth data string to the first data string are generated.

7. A data transform method according to claim 1, wherein, in said usage-license-information addition step, the first usage license information is encrypted, and the encrypted first usage license information is added to the second data string.

8. A data transform method according to claim 1, wherein said at least one condition includes at least one of information indicating the number of usages of the second data string, information indicating an expiry date of the

second data string, information indicating a period for which the second data string is used, and information indicating a time for which the second data string is used.

9. A data transform method according to claim 1, wherein, in said replacement step, the first data is replaced by the second data so that the playback quality of the second data string is lower than the playback quality of the first data string.

10. A data transform method according to claim 1, further comprising a coding step of coding input data, wherein, in said replacement step, the first data is replaced by the second data by using the data coded in said coding step as the first data string.

11. A data transform method according to claim 10, wherein the first data includes at least one of normalizing-coefficient information used for coding processing in said coding step, quantizing-precision information used for coding processing in said coding step, and variable-length codes generated in said coding step.

12. A data transform method according to claim 1, further comprising:

a frequency-component transform step of transforming input data into frequency components; and

a coding step of coding the frequency components transformed in said frequency-component transform step, wherein:

in said replacement step, the first data is replaced by the second data by using the data coded in said coding step as the first data string; and

the first data replaced by the second data in said replacement step includes spectrum-coefficient information of the frequency components transformed in said frequency-component transform step.

13. A data transform method according to claim 12, wherein the second data is data in which at least part of the first data is replaced by random data.

14. A data transform method according to claim 1, wherein the first data string and the second data string include audio data.

15. A data transform method according to claim 2, wherein the third data string includes audio data.

16. A data transform method according to claim 3,

wherein the fourth data string includes audio data.

17. A data transform method according to claim 6, wherein the fifth data string includes audio data.

18. A data transform apparatus for transforming a first data string into a second data string, comprising:
replacement means for replacing first data contained in the first data string by second data;

generation means for generating the second data string by using data generated by said replacement means; and

usage-license-information addition means for adding, to the second data string, usage license information including information indicating at least one condition for permitting the use of at least part of the second data string and information indicating the second data string which is permitted to be used based on said at least one condition,

wherein, when the second data string is used, the second data string which is permitted to be used is utilized based on the usage license information.

19. A computer-executable program for controlling a data transform apparatus that transforms a first data string into a second data string, comprising:

a replacement step of replacing first data contained in

the first data string by second data;

a generation step of generating the second data string by using data generated in said replacement step; and

a usage-license-information addition step of adding, to the second data string, usage license information including information indicating at least one condition for permitting the use of at least part of the second data string and information indicating the second data string which is permitted to be used based on said at least one condition,

wherein, when the second data string is used, the second data string which is permitted to be used is utilized based on the usage license information.

20. A data processing method for playing back or recording a sixth data string, comprising:

a usage-license-information management step of managing usage license information including information indicating at least one condition for permitting at least part of the sixth data string to be played back or recorded and information indicating the sixth data string which is permitted to be played back or recorded based on said at least one condition; and

a data processing step of playing back or recording the sixth data string which is permitted to be played back or recorded based on the usage license information.

21. A data processing method according to claim 20, wherein:

the sixth data string includes a seventh data string;

in said usage-license-information management step, the usage license information including indicating at least one condition for permitting at least part of the sixth data string containing the seventh data string to be played back or recorded and information indicating the sixth data string including the seventh data string which is permitted to be played back or recorded based on said at least one condition is managed; and

in said data processing step, when the sixth data string containing the seventh data string is played back or recorded, the sixth data string which is permitted to be played back or recorded is played back or recorded based on the usage license information.

22. A data processing method according to claim 20, further comprising:

a replacement step of replacing sixth data contained in the sixth data string by seventh data based on an eighth data string; and

a generation step of generating a ninth data string by using data generated in said replacement step, wherein:

in said usage-license-information management step, information indicating at least one condition for permitting at least part of the ninth data string to be played back or recorded and information indicating the ninth data string which is permitted to be played back or recorded based on said at least one condition, said information being added to the eighth data string, are added to the usage license information, and said usage license information is managed; and

in said data processing step, when the ninth data string is played back or recorded, the ninth data string which is permitted to be played back or recorded is played back or recorded based on the usage license information.

23. A data processing method according to claim 22, wherein the sixth data string includes a seventh data string; said data processing method further comprising an addition step of adding at least part of the seventh data string to the ninth data string based on the usage license information including information for adding at least part of the seventh data string to the ninth data string, said usage license information being added to the eighth data string and managed in said usage-license-information management step, wherein:

in said usage-license-information management step,

information indicating at least one condition for permitting at least part of the ninth data string to which said at least part of the seventh data string is added to be played back or recorded and information indicating the ninth data string which is permitted to be played back or recorded are added to the usage license information, and said usage license information is managed; and

in said data processing step, when the ninth data string to which said at least part of the seventh data string is added is played back or recorded, the ninth data string which is permitted to be played back or recorded is played back or recorded based on the usage license information.

24. A data processing method according to claim 21, wherein, in said usage-license-information management step, information added to an eight data string is further managed as the usage license information, said data processing method further comprising an erasing step of erasing, based on the usage license information, added to the eight data string and managed in said usage-license-information management step, including information for erasing at least part of the sixth data string containing the seventh data string, said at least part of the sixth data string containing the seventh data string.

25. A data processing method according to claim 22, further comprising an addition step of adding, based on the usage license information including information for adding a tenth data string to the ninth data string, said usage license information being added to the eighth data string and being managed in said usage-license-information management step, the tenth data string to the ninth data string.

26. A data processing method according to claim 20, wherein the usage license information is encrypted.

27. A data processing method according to claim 20, wherein said at least one condition includes at least one of information indicating the number of usages of the sixth data string, information indicating an expiry date of the sixth data string, information indicating a period for which the sixth data string is used, and information indicating a time for which the sixth data string is used.

28. A data processing method according to claim 22, wherein, in said replacement step, the sixth data is replaced by the seventh data by using the eighth data string so that the playback quality of the ninth data string

becomes higher than the playback quality of the sixth data string.

29. A data processing method according to claim 22, further comprising a decoding step for decoding input data, wherein, in said replacement step, the sixth data is replaced by the seventh data by using coded data to be decoded in said decoding step as the sixth data string.

30. A data processing method according to claim 29, wherein the seventh data includes at least one of normalizing-coefficient information used for decoding processing in said decoding step, quantizing-precision information used in decoding processing in said decoding step, and variable-length codes to be decoded in said decoding step.

31. A data processing method according to claim 22, further comprising:

a decoding step of decoding input data into frequency components; and

a signal-component transform step of transforming the frequency components decoded in said decoding step into signal components, wherein:

in said replacement step, the sixth data is replaced by

the seventh data by using coded data to be decoded in said decoding step as the sixth data string; and

the seventh data to replace the sixth data in said replacement step includes spectrum-coefficient information of the frequency components to be transformed in said signal-component transform step.

32. A data processing method according to claim 31, wherein the sixth data is data in which at least part of the seventh data is replaced by random data.

33. A data processing method according to claim 20, wherein the sixth data string includes audio data.

34. A data processing method according to claim 21, wherein the seventh data string includes audio data.

35. A data processing method according to claim 22, wherein the eighth data string and the ninth data string include audio data.

36. A data processing method according to claim 25, wherein the tenth data string includes audio data.

37. A data processing apparatus for playing back or

recording a predetermined data string, comprising:

usage-license-information management means for managing usage license information including information indicating at least one condition for permitting at least part of the predetermined data string to be played back or recorded and information indicating the predetermined data string which is permitted to be played back or recorded based on said at least one condition; and

data processing means for playing back or recording the predetermined data string which is permitted to be played back or recorded based on the usage license information.

38. A computer-executable program for controlling a data processing apparatus that plays back or records a predetermined data string, comprising:

a usage-license-information management step of managing usage license information including information indicating at least one condition for permitting at least part of the predetermined data string to be played back or recorded and information indicating the predetermined data string which is permitted to be played back or recorded based on said at least one condition; and

a data processing step of playing back or recording the predetermined data string which is permitted to be played back or recorded based on the usage license information.